

## Specifications

Spec.	Model	LT2-2220-LOB	LT2-2220-MOB	LT2-2220-BOB
Application		Light fabric	Light ~ Medium-heavy fabric	medium-heavy fabric
Sewing speed (max.)		4000spm	4000spm	3000spm
Stitch length		0 ~ 4 mm	0 ~ 4 mm	0 ~ 7 mm
Needle bar stroke		33.4 mm	33.4 mm	35 mm
Presser stroke		Knee lifter : 13mm, Hand lifter : 7mm		
Needle		DP x 5 #11	DP x 5 #14	DP x 5 #18
Hook size		Regular	Regular	Large
Thread, take-up lever		Slider		
Stitch adjustment		Dial		
Reverse sewing		Lever		
Oiling method		Automatic Lubrication		
Table		LT (Bed dimension 517 x 178 mm)		
Motor		Mitsubishi clutch motor 400W		
Needle gauge	Standard	3.2, 4.8, 6.4mm		
	Special	2.4, 4, 5.6, 8, 9.5, 12.7, 16, 19, 25.4, 28.5, 31.8, 38.1		

### Notes

- Needle of-L class machine applicate 3.2, 4, 4.8, 5.6, 6.4, 8, 9.5 mm.
- Some materials, gauge sizes, and/or sewing conditions may require specifications other than those listed above.
- This specification is subject to change for machine improvement.



**mitsubishi**  
**INDUSTRIAL**  
**SEWING**  
**MACHINE**  
Model

# LT2-2220

## classes

Double-Needle Needle-Feed  
Lockstitch

### PRECAUTIONS BEFORE STARTING TO OPERATE

#### (1) Safety Precautions

1. Keep your hands and fingers away from the area around the needle and the area around the pulley when turning the power on.
2. Power must be turned off when the machine is not in use, or when the operator leaves his/her seat.
3. Power must be turned off before tilting the machine head, installing or removing the "V" belt, adjusting the machine, or replacing its parts.
4. Avoid placing fingers, hair, bars etc., near the pulley, "V" belt, bobbin winder, or motor when the machine is operating.
5. Do not insert fingers into the thread take-up cover, under/around the needle, or pulley when the machine is operating.
6. If a belt cover, finger guard, and/or eye guard are installed, do not operate the machine without these safety devices.

#### (2) Precautions before Starting Operation

1. If the machine's oil pan has an oil sump, never operate the machine before filling it.
2. If the machine is lubricated by a drop oiler, never operate the machine before lubricating.
3. When a new sewing machine is first turned on, verify the rotational direction of the pulley with the power on.  
(The pulley should rotate counterclockwise when viewed from the pulley.)
4. Verify the voltage and (single or three) phase with those given on the machine nameplate.

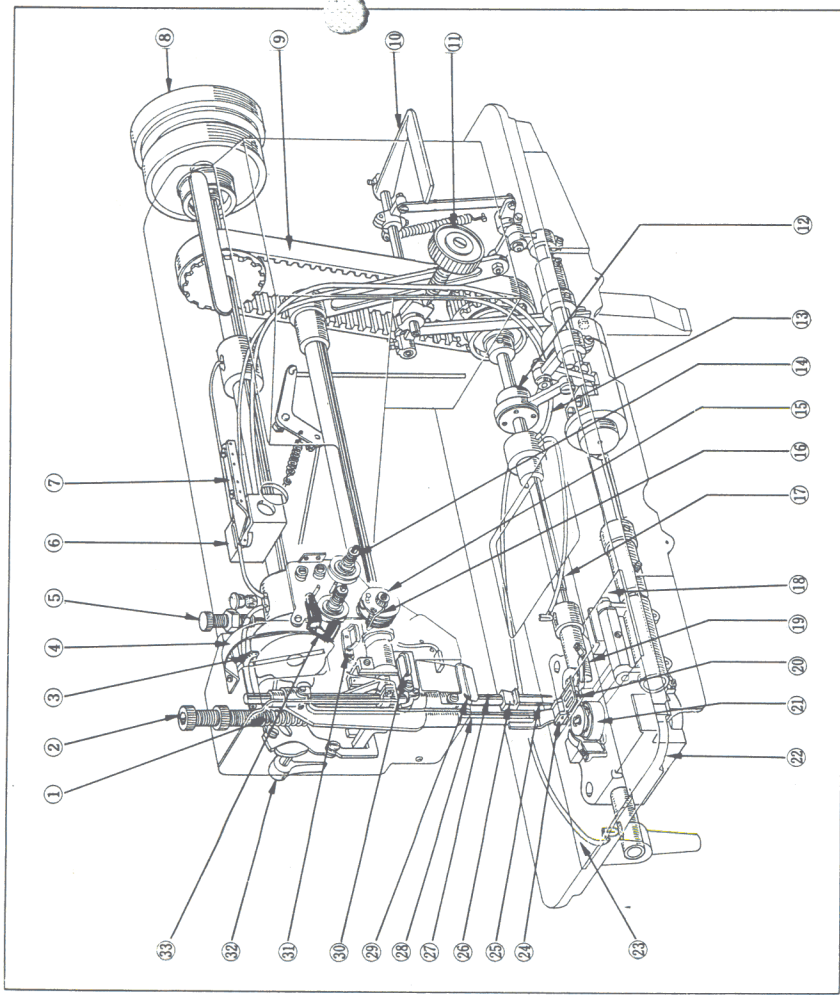
#### (3) Precautions for Operating Conditions

1. Avoid using the machine at abnormally high temperatures (35°C or higher) or low temperatures (5°C or lower). Otherwise, machine failure may result.
2. Avoid using the machine in dusty conditions.

**MITSUBISHI ELECTRIC CORPORATION**  
HEAD OFFICE MITSUBISHI DENKI BLDG. MARUNOUCHI, TOKYO 100 TELEX J24532 CABLE MELCO TOKYO

A180E126P02 Printed in Japan

## Main parts name of machine head



- |                                   |   |                           |
|-----------------------------------|---|---------------------------|
| 1) Spring for Presser foot        | 12) Feed cam                                | 22) Hook saddle           |
| 2) Presser adjusting screw        | 13) Oiling system                           | 23) Slide plate (left)    |
| 3) Thread take-up lever           | 14) Thread tension adjusting nut            | 24) Presser foot          |
| 4) Cover for thread take-up lever | 15) Upper thread tension regulator complete | 25) Needle                |
| 5) Oiling adjusting screw         | 16) Thread take-up spring                   | 26) Needle clamp          |
| 6) Oil tank                       | 17) Slide plate (right)                     | 27) Needle bar            |
| 7) Thread guide                   | 18) Slide plate (front)                     | 28) Presser bar           |
| 8) Pully                          | 19) Needle plate                            | 29) Thread guide (lower)  |
| 9) Timing belt                    | 20) Feed dog                                | 30) Thread guide (middle) |
| 10) Feed reverse lever            | 21) Hook complete                           | 31) Thread guide (upper)  |
| 11) Stitch length getting dial    |   | 32) Presser lifter        |
|                                   |   | 33) Upper thread guide    |

## Precaution before starting to operate

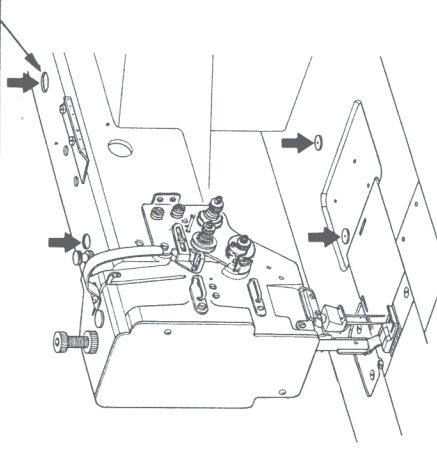
### 1. Oiling (1)

Fill the oil reservoir with oil up to "H" mark. Oil level should be periodically checked. If oil level is found below "L88 level replenish oil to "H" level. For oil, use white spindle oil specified by Mitsubishi.

### 2. Oiling (2)

When a new sewing machine is used for the first time, or sewing machine left out of use for considerably long time is used again, replenish a suitable amount of oil to the portions indicated by arrow in the below figures.

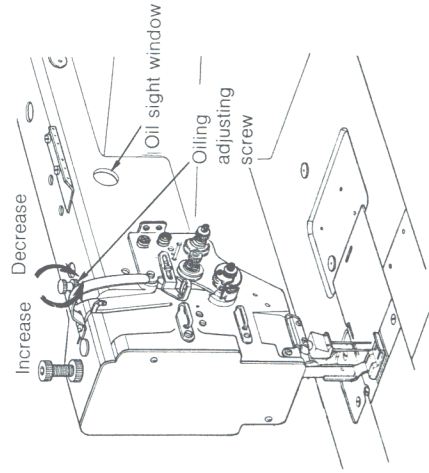
Don't replenish oil here in the case of "B" type sewing machine!



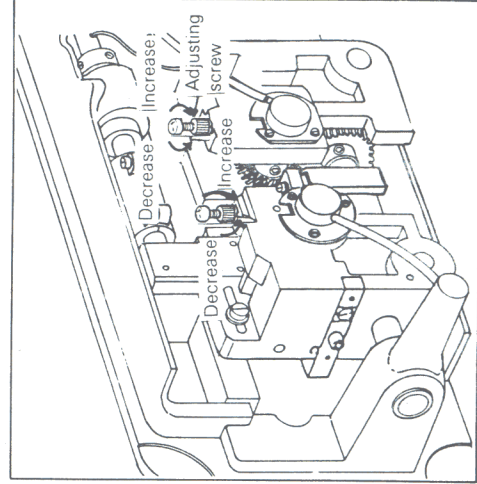
### 3. Oiling condition

(1) See dripping of oil during operation through the oil sight window to check oiling condition in the machine arm.

(2) Please use the oiling adjusting screw with respect to oiling to thread take-up lever mechanism.



### 4. Adjustment on oiling to retating hook



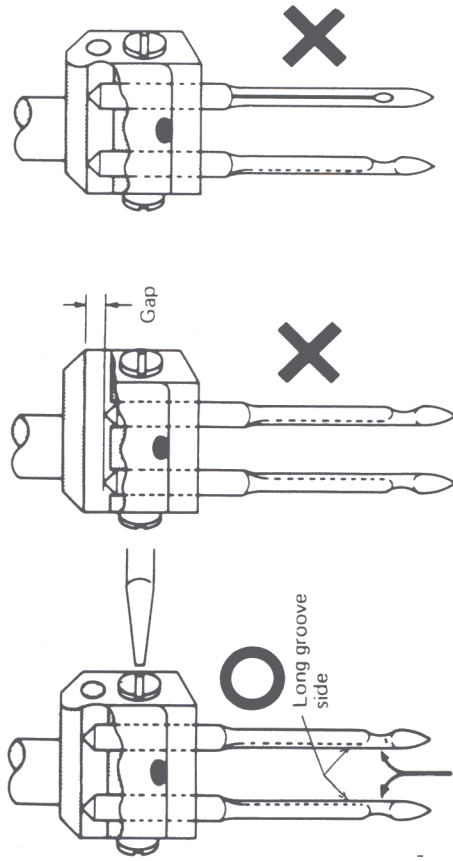
Amount of oil.....▲ 5 ~ 6 drops

## How to use the machine

### 1. How to attach needle

Note: Before making the following adjustment, switch off the power source by all means.

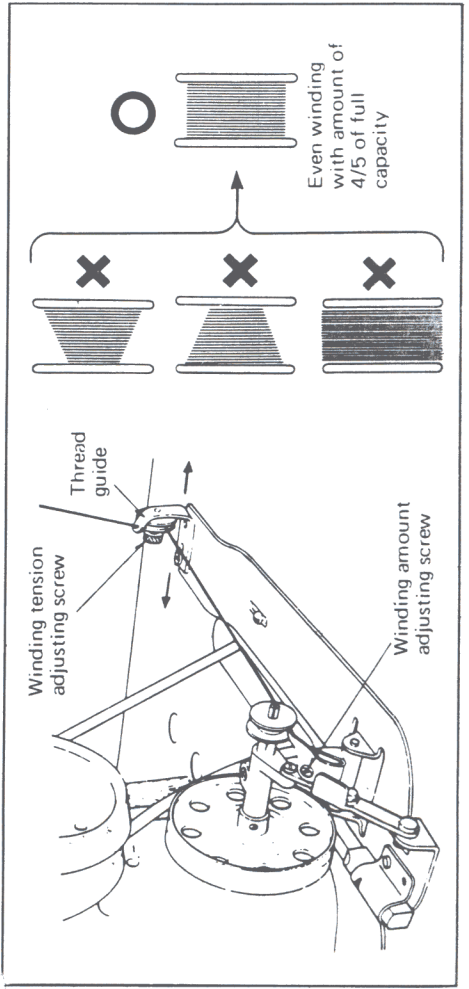
Insert the needle upto the bottom of needle clamp and tighten the screw keeping the long groove side of needle toward the face to face.



### 2. How to wind the lower thread on the bobbin

Note: In case of rotate the machine without sewing, keep the presser foot raised.

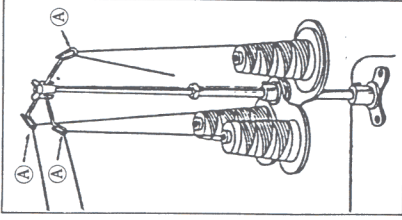
- Adjustment: \*\* Strength of winding: Particularly in case of nylon or tetoron thread. It is desirable that the bobbin is wound enough loose.
- \*\* Uneven winding: In case of uneven winding, adjust the thread guide slightly toward the less wound part of bobbin so that to obtain even winding.
- \*\* Winding amount of thread: When the winding amount of thread is excessive loosen the adjusting screw and tighten when insufficient.



## How to use the machine

### 3. Threading the machine

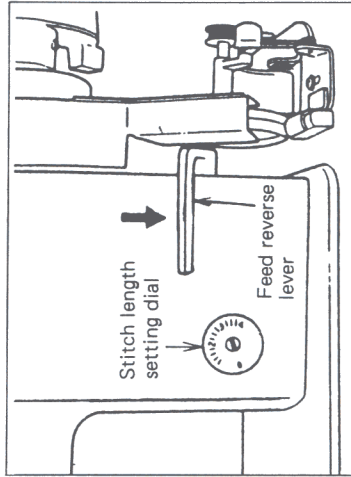
Note: The thread guide (A) should be positioned just above the thread spool.



### 4. Stitch adjustment and reverse sewing

Note: Press down the reverse sewing lever and turn the stitch length setting dial to shorten the stitch length.

To change the direction of feed for back tacking, depress feed reverse lever to lowest position until back tack is completed.

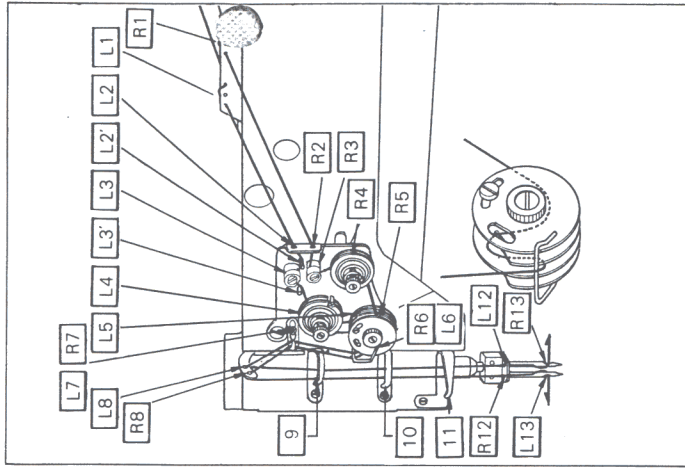


### 5. Adjusting of needle thread guide

Please adjust the needle thread guide of needle thread tensioner according to sewing condition.

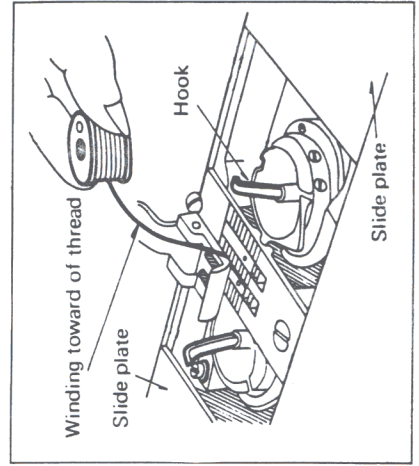
Thread guide position	Left	Middle	Right
Materials	The thicker than standard	L } Standard. M } B }	The thinner than standard
Needle thread supply	More	Standard.	Less

Raise the thread take-up lever to its highest position and thread the upper thread in the following order.



### 6. HOW TO PLACE THE BOBBIN into the hook

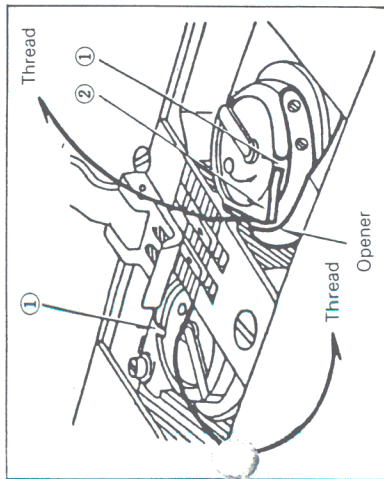
Note: In case of placing the bobbin into the hook, place the bobbin by making winding toward thread in correct direction shown in Fig.



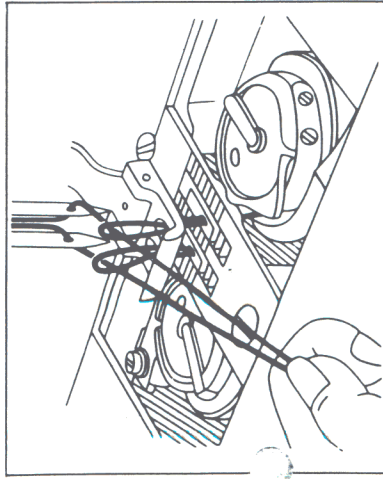
## How to use the machine

### 7. Threading of bobbin threads

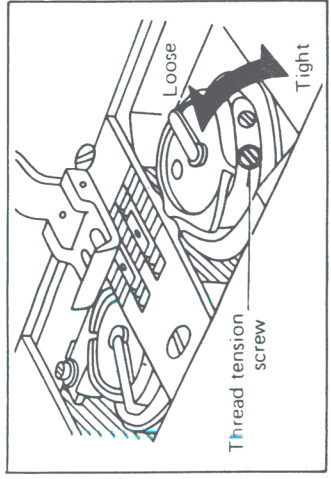
- Put bobbin thread into the slit 1, pass under the lug 2 and extend it below the bed.



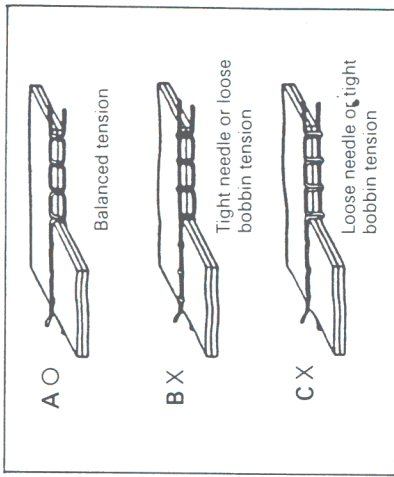
- While holding the two needle threads by left hand, rotate the handwheel one turn by right hand. By pulling up the needle threads, as shown in the figure, the bobbin threads will be lifted. Both of bobbin thread and needle thread should be aligned and led backward.



### 8. Tension adjustment of bobbin threads

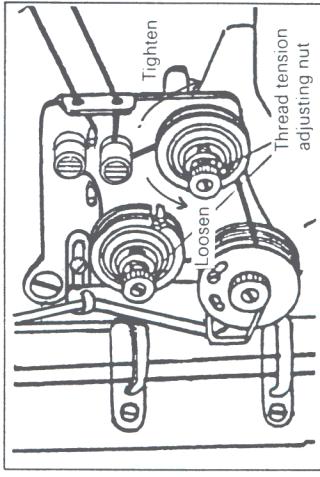


### 9. Balance of thread tension



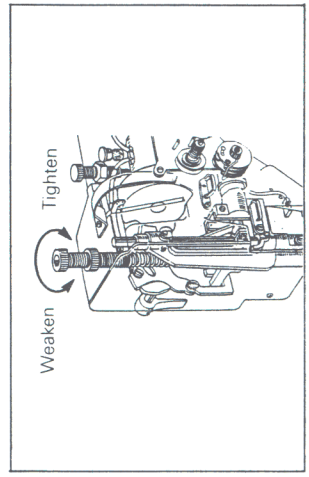
### 10. Needle thread tension

- Needle thread tension should be adjusted in reference to bobbin thread tension.
  - To adjust needle thread tension, turn each tension adjusting nut.
- Needle thread tension can be also adjusted for special fabric and thread by changing intensity and stroke of thread take up spring.



### 11 Adjustment of presser foot pressure

Pressure to fabric(s) can be adjusted by turning the pressure adjusting screw.



## Trouble & Repair

Trouble	Causes	Repairing
Skip stitching	1) <b>Needle</b> • Bent • Not suited with thread	Change the needle with new one. Replace with proper one according to the thickness of thread.
	2) <b>Wrong attached needle</b> • Insertion not enough • Needle distorted  • Attached with its opposite side	Insert properly as per instruction manual. Attach the needle as its hole faces side ways. (But, using the nylon or tetoron thread, distance the needle hole somewhat, after checking of loop finish.) Correct the attaching side, attach the needle keeping its groove side toward the left, and concave side toward the right.
Irregular stitch	1) <b>Upper thread tension too weak</b> 2) <b>Thread take-up spring too weak</b> 3) <b>Lower thread tension too weak</b>	Turn the upper thread tension regulator thumb nut to the right to strengthen. Turn the tension stud to the left to strengthen. Turn the bobbin case tension screw to the right to strengthen.
	1) <b>Poor thread</b>	Change the thread with better quality one.
	2) <b>Needle</b> • Needle bent • Wrong attached needle • Thread too big for the needle size	Change the needle with new one. See No. 2 of skip stitching. Either change with proper size thread or with proper needle.
Thread cuts	3) <b>Upper thread tension too strong</b> • Dust deposit between tension discs. • Excessive or uneven winding of lower thread on the bobbin • Dust deposit in bobbin case • Damaged thread tension on bobbin case • Wrong inserted bobbin into bobbin case	Turn the tension regulator nut to the left to weaken. Remove the tension discs and clean by brush. Rewinding correctly with the winding amount of 4/5 of its full capacity. Remove the bobbin case and clean by brush. Change with new one. Replace the bobbin correctly, so that to rotate the bobbin clockwise when the thread is pulled-out.
	1) <b>Needle &amp; thread too big for fabric</b>	Change with proper size needle and thread for fabric.
	2) <b>Thread tension (upper or lower thread)</b> 3) <b>Pressure of presser foot</b>	Adjust the thread tension by regulators thumb nut, take-up spring, adjusting screw on the bobbin case. Weaken by turning the regulating thumb screw to the left.